

ABSTRACT

This study deals with the quality of restorations, assessment of quantity and material cost for restorations and clinicians' opinions on the management of selected clinical problems in restorative dentistry.

Six hundred and fifty eight subjects, who could provide a history of their restorations were selected, and they had 1884 restorations. Of them 85.99% restorations were done with amalgam and 14.01% with tooth-coloured restorations.

Five criteria, namely, anatomical form, marginal integrity, surface texture, colour and secondary caries were used to assess the quality of restorations.

Quality of restorations had a significant association with the age of the subject, sugar consumption, oral health care, periodontal status, leading to developing suitable interventions for quality improvement in restorative care.

Of the restorations studied, 53.13% were satisfactory. Of the satisfactory restorations, the larger number had amalgam restorations (95.6%) and 4.4% were tooth coloured restorations.

Applying the study criteria on unsatisfactory restorations, the order of commonality was secondary caries (80.7%), marginal integrity (75.3%), anatomical form (59.8%), surface texture (27.4%) and colour (24.2%).

Defects at most times, exist in combinations. The most common being that of secondary caries and marginal integrity.

Comparing the characteristics of unsatisfactory amalgam vs. tooth - coloured restorations, in amalgam restorations majority were unsatisfactory due to the presence of secondary caries, while in the tooth - coloured restorations a large number were unsatisfactory due to defects in colour.

This study also explored the possible causes of restorative defects in relation to the following specific variables.

1. Type of the restoration

Tooth coloured restorations have a lesser durability and become unsatisfactory sooner than amalgam restorations. Amalgam is easily placed into the cavity, whilst tooth coloured materials need a more skilful technique, special equipment and the operators need to follow user guidelines.

2. Site of the restoration

It is evident that more difficult the site of restoration, the greater the incidence of failure.

3. Positioning of the margin of the restoration

This had a direct bearing on the quality of the restoration. Whenever the restoration margin was placed on a smooth surface of a tooth, the quality of the restoration was better than when placed on pits and fissures.

4. Size of the restoration

The quality of the restoration had a direct bearing on size. Large restoration had a greater chance of being defective.

5. Type of operator

This study showed that, qualified operators were attending to more difficult restorations and hence their reduced success rate. The unqualified operators had a very poor success rate. The therapists had a good record of performance.

Statistically the above five variables had a significant association with the defects in restoration, individually or in combination.

Assessment of the quantity and cost of restorative material required for a restoration showed that large restorations had less wastage than smaller ones.

To reduce wastage a formula was developed in this study, based on the surface area of different classes of restorations and the depth of the cavity.

The views of practicing Dental Surgeons in Sri Lanka on management of clinical problems collected through organised questionnaires showed a deviation of 57.4% from International Restorative Standards, mainly due to lack of available facilities.

On an analysis of survival of unsatisfactory amalgam restorations, a mean longevity of 7.8 years was observed.